MIKHAYLOV, Vitaliy Stepanovich; ROSIN, Yevgeniy Iosifovich;
YAKOVLEV, G.S., inzh., retsenzent; KHOMYAKOV, N.M.,
doktor tekhn. nauk, nauchnyy red.; SACHUK, N.A., red.;
SHISHKOVA, L.M., tekhn. red.

[Electromechanical amplifiers of the longitudinal field on ships] Elektromashinnye usiliteli prodol'nogo polia na sudakh. Leningrad, Sudpromgiz, 1963. 181 p. (MIRA 16:5)
(Electricity on ships)

MIKHAYLOV, Vitaliy Stepanovich, kand.tekhn.nauk, starshiy prepodavatel'

Magnetoelastic device for measuring the torque of electric motors. Izv. vys. ucheb. zav.; elektromekh. 6 no.11:1235-1243 '63. (MIRA 17:4)

1. Kafedra elektrifikatsii promyshlennykh predspriyatiy Chelyabinskogo politekhnicheskogo instituta.

[illegible] EWT(d)/EWP(1) IJP(c) GG/BB

ACC NR: AP6016758 (A) SOURCE CODE: UR/0118/66/000/001/0048/0051

AUTHOR: Dobrolyubov, A. I. (Candidate of technical sciences); Mikhaylov, V. S. (Engineer)

ORG: none

TITLE: Method of repairing and finding trouble in electronic digital computers

SOURCE: Mekhanizatsiya i avtomatizatsiya proizvodstva, no. 1, 1966, 48-51

TOPIC TAGS: electric engineering personnel, ~~electronic~~ digital computer, computer component, circuit failure, magnetic tape, COMPUTER CIRCUIT

ABSTRACT: In connection with the fact that only highly qualified repairmen or operators can more or less quickly find trouble in electronic digital computers and thus reduce the downtimes of the machine, the so-called "functional cyclograms" are proving to be of great help for the rapid finding of trouble and also for teaching servicing personnel. Functional cyclograms of electrical circuits of the computer units yield in a graphic and concise form sufficiently complete information on the work of a given circuit, functions, and interactions of its elements and are a convenient means of analyzing circuits and are needed when estimating the reliability of circuit operation. The development of functional cyclograms for complex fundamental electrical circuits of the computer units is

Card 1/2 UDC: 681.142.82:62-77

ACC NR: AP6016758

a rather laborious process, but once it has been compiled the cyclogram makes it possible for unskilled servicing personnel to rapidly analyze a complex circuit. In this article, the authors prescribe the method of functional cyclograms for the specific example of a simplified circuit of a magnetic tape marking unit of the Minsk-2 electronic digital computer. It is shown that in this case the functional cyclogram appreciably facilitates analysis of the work of the computer circuits and finding troubles in it. From each line of the cyclogram it is possible to establish rapidly the transmission pathway of a pulse through the circuit; establish what potentials should be read out by various elements, and by means of an oscillograph, to check the actual transmission of the pulses and the presence of the potentials. Thus, the place of signal delay, i.e., the faulty element, is quickly found. Orig. art. has: 3 figures.

SUB CODE: 09,14/ SUBM DATE: 00/ ORIG REF: 000/ OTH REF: 000

Card 2/2

ACC NR: AP7002578 (A,N) SOURCE CODE: UR/0413/66/000/023/0076/0076

INVENTOR: Mikhaylov, V. S.

ORG: none

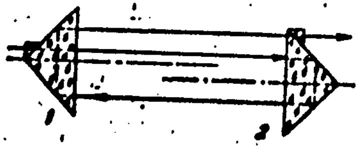
TITLE: Photo range finder. Class 42, No. 189161

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 23, 1966, 76

TOPIC TAGS: optic range finder, optic prism

ABSTRACT: This Author Certificate presents a photo range finder containing a source and a receiver of radiation and a variable optical delay line. To increase the accuracy of measurements and to simplify the design. the optical delay line is in the form of two movable triple prisms whose bases are parallel and whose vertices are turned by 180° and shifted relative to each other (see Fig. 1).

Fig. 1. 1 and 2 - triple prisms



Orig. art. has: 1 diagram.
SUB CODE: 17/ SUBM DATE: 29Jul65

Card 1/1

UDC: 528.517

BORISOV, Aleksandr Mikhaylovich, assistent; MIKHAYLOV, Vitaliy Stepanovich,
kand.tekhn.nauk, dotsent

Method for increasing the accuracy of magnetoelastic torsiometers.
Izv.vys.ucheb.zav.; elektromekh. 8 no.7:828-831 '65.
(MIRA 18:8)

1. Kafedra elektroprivoda i avtomatizatsii promyshlennykh ustanovok Chelyabinskogo politekhnicheskogo instituta (for Borisov). 2. Zaveduyushchiy kafedroy elektrooborudovaniya sudov Nikolayevskogo korablestroitel'nogo instituta (for Mikhaylov).

MIKHAYLOV, V.S., kand. yuridicheskikh nauk (Vladivostok)

Privileges and immunities of the World Health Organization.
Sov. zdrav. 22 no.6:40-45'63. (MIRA 16:9)
(WORLD HEALT ORGANIZATION)

MIKHAYLOV, V. T.

PA 62T47

USSR/Engineering
Drills, Electric

Feb 1948

"A New Electrical Core Drill," V. T. Mikhaylov, Dr Tech Sci, 1 p

"Mekh" No 2

Briefly describes operating characteristics of the EBK-2M drill. Operating data obtained from use of this drill at the Novo-Azovskiy mines, RostovUgol' Combine.

[redacted]

62T47

MIKHAYLOV, V.T., inzh.; GIL'MAN, M.S., inzh.

Machine for boring holes for line and track signals. Transp. stroi. 11 no.10:52-53 O '61. (MIRA 14:10)
(Boring machinery) (Railroads--Equipment and supplies)

MIKHAYLOV, V. T., inzh.

The AMK-20 unit for erecting reinforced concrete bridge spans. Stroi. i dor. mash. 7 no.11:25-26 N '62. (MIRA 16:1)

(Bridge construction) (Bridges, Concrete)

MIKHAYLOV, V.T., inzh.; GIL'MAN, M.S., inzh.

Screw and nut wrench. Transp. stroi. 12 no.5:51 My '62. (MIRA 15:6)
(Wrenches)

MIKHAYLOV, V.T., inzh.

Mobile unit for processing sand and gravel mixtures. Transp. stroi. 12 no.9:38-39 S '62. (MIRA 16:2)
(Sand and gravel industry—Equipment and supplies)

MIKHAYLOV, V.T.

Elongated trailer-type planer. Avt. dor. 25 no.2:16 F '62.
(MIRA 15:2)

(Road machinery)

MIKHAYLOV, V.T., inzh.

The D-471 tamping machine. Avt.dor. 25 no.8:17 Ag '62. (MIRA 16:2)

(Road machinery)

MIKHAYLOV, Vladimir Timofeyevich, inzh.; UKRAINCHIK, M.M., inzh., red.

[Mobile facilities for the technical servicing of construction equipment] Peredvizhnye sredstva dlia tekhnicheskogo obsluzhivaniia stroitel'nykh mashin. Moskva, Gosstroiizdat, 1963. 18 p. (MIRA 17:9)

1. Moscow. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu.
2. TSentral'noye normativno-issledovatel'skoye byuro "Orgtransstroy" Gosudarstvennogo proizvodstvennogo komiteta po transportnomu stroitel'stvu SSSR (for Mikhaylov).

MIKHAYLOV, V.T.

Treatment of closed trauma of the brain in prolonged unconscious state of the patient. Vop. neirokhir. 26 no.5:55-56 S-O'62 (MIRA 17:4)

GIL'MAN, M.G., inzh.; MIKHAYLOV, V.T., inzh.

Suggested by efficiency promoters. Transp. stroi. 12 no.3:33-34 Mr '62. (MIRA 16:11)

MIKHAYLOV, V.
25637

Pobeda galiny ivanovoy. O Rabote Stakhanovkhi Mosk. Shinnogo zavoda. Ocherk. --S Portr. Sov. Zheshchina, 1948, No. 4, s. 8-9

SO: LETOPIS NO. 30, 1948

MIKHAYLOV, V.V.

Zuev, V. P. and Mikhailov, V. V.: Proizvodstvo sazhi (Production of Carbon Black). Moscow: Gosudarst. Nauch.-Tekh. Izdatel'stvo Khim. Lit. 1963. 198 pp. FU

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MIKHAYLOV, V.V.

USSR.

22C0. SPRAY BURNER METHOD FOR PRODUCTION OF LAMP BLACK. Mikhailov, V.V. (Khim. Prom. (Chem. Ind., Moscow), Jan. 1954, 26-28; abstr. in Chem. Abstr., [illegible], vol. 48, 12394). By this method, the liquid fuel is sprayed into the [illegible] and the air is blown into the furnace at a point below the fuel entry in existing in pot furnaces. The product obtained by this method is more uniform and has good filler properties. C.A.

MIKHAYLOV,V.V., laureat Stalinskoy premii

A new standard for carbon black is necessary in the rubber industry.
Standartizatsiia no.1:37-41 Ja-F '55. (MLRA 8:6)

1. Glavnoye upravleniye shinnoy promyshlennosti MKhP
(Carbon black--Standards) (Rubber industry)

MIKHAYLOV, V.V.

V 867. **Problems in the development of the carbon black industry.** V. V. Mikhailov and V. P. Zuev. *Kauch i Rezina*, 1957, 16, No 4, 1-5. This short survey article contains a table of the various carbon blacks used in Soviet technology with their principal characteristics, and also a table of the properties of various furnace blacks produced from liquid raw materials. The main task of the Soviet carbon black industry is to organise the production of blacks without inclusions and in granular form.

1210

MIKHAYLOV, V.V. (Moskva)

Approximation of enthalpy and the equation of state of carbon dioxide. Inzh.zhur. 2 no.2:239-245 '62. (MIRA 15:6)
(Enthalpy) (Carbon dioxide)

MIKHAYLOV, V.V.; NAZARKIN, A.T. [deceased]; RASKIN, Ya.L.; SVERDLIN, M.S.; YEFREMOVA, V.K.; Prinimala uchastiye: BEREZINA, G.P.

Granulated organic pigments for the paint industry. Lakokras. mat.i ikh prim. no.3:32-35 '62. (MIRA 15:7)
(Pigments)

BURMISTROV, Ye.F.; MIKHAYLOV, V.V.; MASLOVA, I.P.; VLADIMIROV, S.

Inhibitors are the elixir of life for polymers. Khim.tekh. 7 no.12: 8-13 D '62. (MIRA 16:4)

1. Zamestitel' direktora Tambovskogo nauchno-issledovatel'skogo instituta khimikatov klya polimerov po nauchnoy chasti (for Burmistrov). 2. Zaveduyushchiy laboratoriyey sinteza stabilizatorov dlya plastmass Tomskogo anuchno-issledovatel'skogo instituta khimikatov dlya polimerov (for Mikhaylov). 3. Rukovoditel' gruppy nauchno-tekhnicheskoy informatsii Tambovskogo nauchno-issledovatel'skogo instituta khimikatov klya polimerov (for Maslova).

(Tambov—Chemistry, Technical—Research) (Inhibition(Chemistry))

MIKHAYLOV, V.V.; PESCHANSKAYA, R.Ya.; FORER, Ye.R.; YEFREMOVA, V.K.;
PEREVEZENTSEVA, N.M.; ALEKSEYEVA, N.A.

New production variety of organic pigments for the rubber industry.
Khim.prom. no.1:26-28 [illegible] '63. (MIRA 16:3)
(Pigments) (Dyes and dyeing--Rubber goods)

VLADIMIROV, Sergey Vladimirovich; ZOLOTAREVA, Klavdiya Aleksandrovna; MASLOVA, Izol'da Petrovna; MIKHAYLOV, Vladimir Vasil'yevich; SIDEL'KOVSKAYA, F.P., kand. khim. nauk, red.; KORNEYEV, S.G., red.; POPOV, V.N., tekhn. red.

[Nonageing polymers]Nestareiushchie polimery. Tambov, Tambovskoe knizhnoe izd-vo, 1962. 78 p. (MIRA 15:11)
(Polymers)

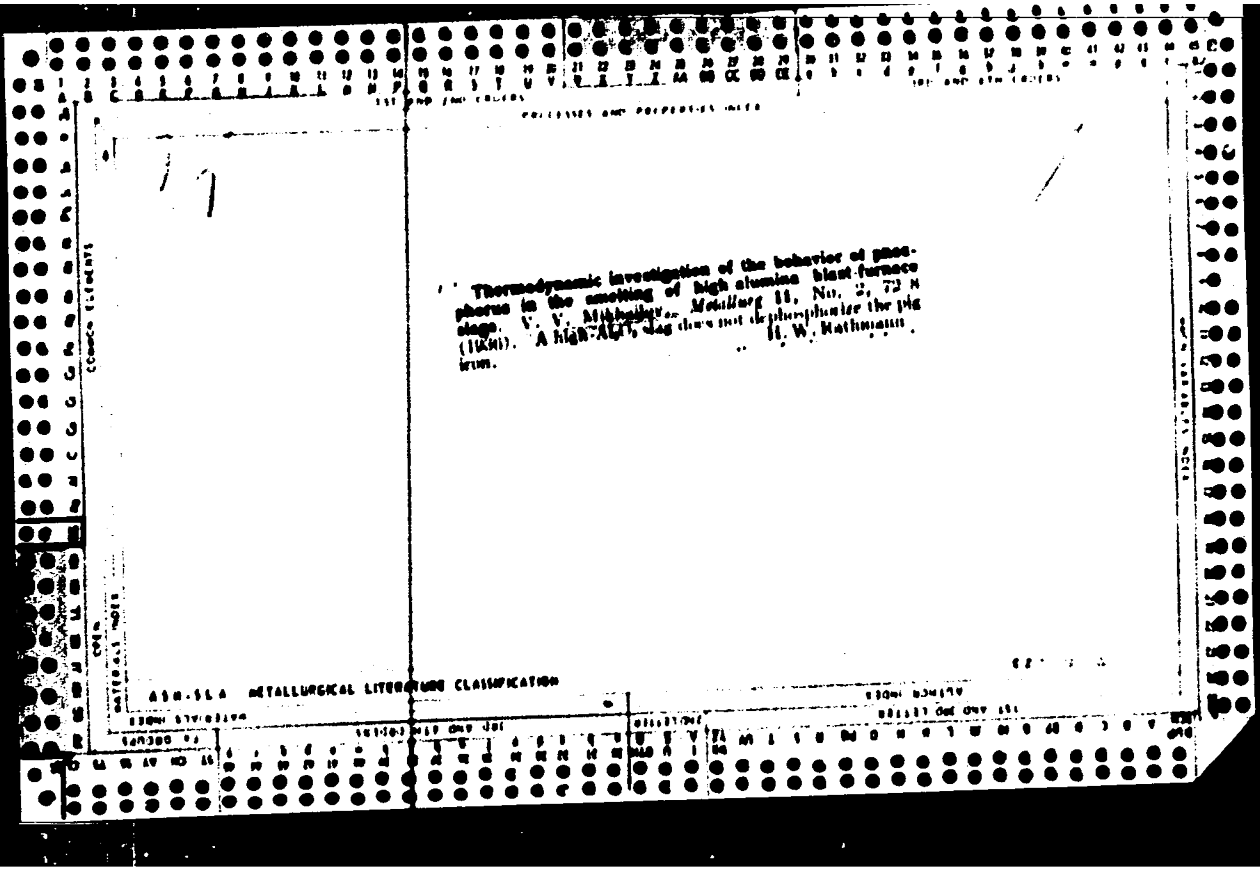
BURMISTROVA, Ol'ga Aleksandrovna; KARAPET'YANTS, Mikhail Khristoforovich, prof.; KARETNIKOV, German Sergeyevich, dots.; KISELEVA, Yekaterina Vasil'yevna, dots.; KUDRYASHOV, Igor' Vladimirovich, dots.; MIKHAYLOV, Vladimir Vasil'yevich, dots.; STAROSTENKO, Yekaterina Pavlovna, dots.; STREL'TSOV, Igor' Sergeyevich; KHACHATURYAN, Ol'ga Borisovna, dots.; GORBACHEV, S.V., doktor khim. nauk, prof., zasl. deyatel' nauki i tekhniki, red.; ALAVERDOV, Ya.G., red.; VORONINA, R.K., tekhn. red.

[Laboratory work in physical chemistry] Praktikum po fizicheskoi khimii. [By] O.A.Burmistrova i dr. Moskva, Vysshaia shkola, 1963. 553 p. (MIRA 16:11)
(Chemistry, Physical and theoretical—Laboratory manual)

IL'INSKIY, N.F., kand.tekhn.nauk; MIKHAYLOV, V.V., inzh.

Steady-state and dynamic modes of operation of a two-phase transistor frequency converter. Elektrichestvo no.12:34-39 D '65. (MIRA 18:12)

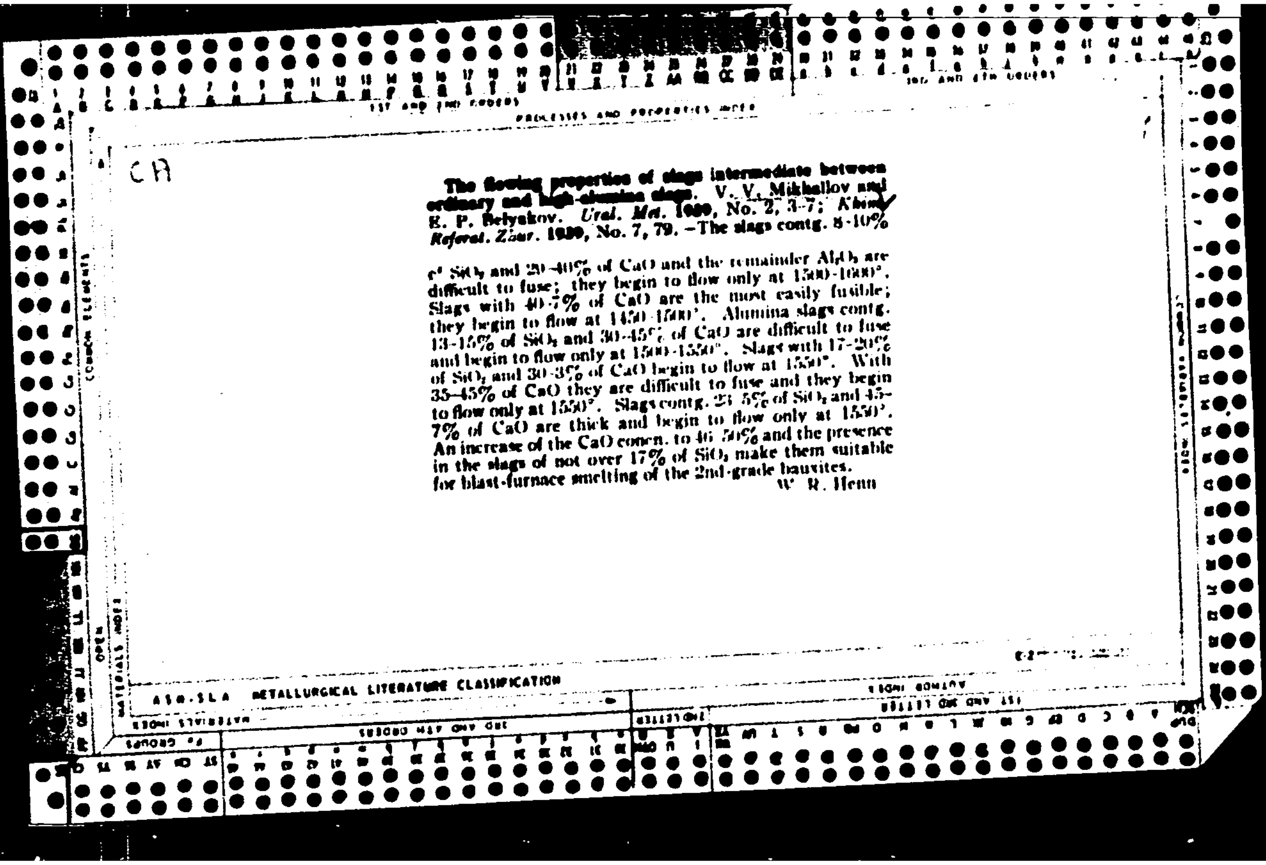
1. Moskovskiy energeticheskiy institut.



PROCESSES AND PROPERTIES INDEX

Thermodynamic investigation of the behavior of phosphorus in the smelting of high alumina blast-furnace slags. V. V. Mikhailov. *Metallurg* 11, No. 2, 7-8 (1966). A high-Al_2O_3 slag does not dephosphorize the pig iron. H. W. Rathmann.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX
3RD AND 4TH ORDERS
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

The flowing properties of slags intermediate between ordinary and high-alumina slags. V. V. Mikhailov and E. P. Belyakov. *Ural. Met.* 1939, No. 2, 3-7; *Khim. Referat. Zhur.* 1939, No. 7, 79.—The slags contg. 8-10% of SiO_2 and 20-40% of CaO and the remainder Al_2O_3 are difficult to fuse; they begin to flow only at 1500-1600°. Slags with 40-5% of CaO are the most easily fusible; they begin to flow at 1450-1500°. Alumina slags contg. 13-15% of SiO_2 and 30-45% of CaO are difficult to fuse and begin to flow only at 1500-1550°. Slags with 17-20% of SiO_2 and 30-3% of CaO begin to flow at 1550°. With 35-45% of CaO they are difficult to fuse and they begin to flow only at 1550°. Slags contg. 23-5% of SiO_2 and 45-7% of CaO are thick and begin to flow only at 1550°. An increase of the CaO concn. to 46-50% and the presence in the slags of not over 17% of SiO_2 make them suitable for blast-furnace smelting of the 2nd-grade bauxites.

W. R. Henn

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Investigations of the reduction of the oxides of titanium in connection with the blast-furnace smelting of high-titanium mixtures. V. V. Mikhailov and E. P. Belyakova. *Ural. Metallurg* 1939, No. 4-5, 11-19; *Khim. Referat. Zhur.* 1939, No. 11, 78.—The conditions for the formation of oxides and carbides of Ti in connection with the difficulties in blast-furnace smelting of Ti ores were investigated. The heat of formation of Ti_2O_3 and the heat of oxidation of Ti_2O_3 to TiO_2 were calcd. Reduction of TiO_2 by solid C begins at 927°. TiC is formed on reduction of TiO_2 at 900-1000°. H_2 begins to reduce TiO_2 at 900°; its max. effect (20.3%) is at 1300°. CO reduces TiO_2 less energetically and at 1300° the amt. of the reduction is 7.9% (a mixt. of TiO_2 and Ti_2O_3 is formed). Pure TiC was obtained from a mixt. of TiO_2 and C after 2 hrs. of heating at 1800-1900°. W. R. Henn

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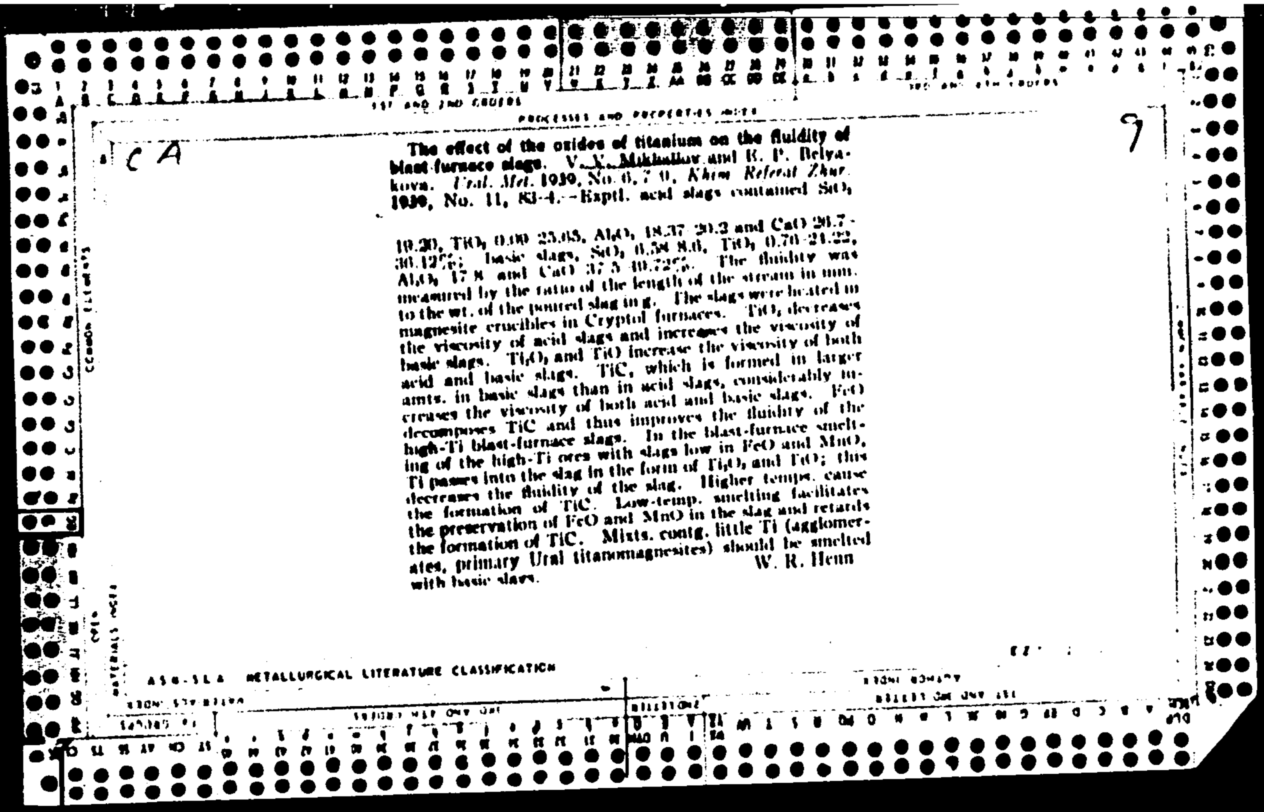

1ST AND 2ND ORDERS

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9

The effect of the oxides of titanium on the fluidity of blast-furnace slags. V. V. Mikhailov and K. P. Belyakova. *Ural. Met.* 1939, No. 6, 7-9, *Khim. Referat. Zhur.* 1939, No. 11, 83-4.—Exptl. acid slags contained SiO_2 40.20, TiO_2 0.00-23.05, Al_2O_3 18.37-20.3 and CaO 29.7-30.12%; basic slags, SiO_2 0.58-8.0, TiO_2 0.70-21.22, Al_2O_3 17.8 and CaO 37.5-40.72%. The fluidity was measured by the ratio of the length of the stream in mm. to the wt. of the poured slag in g. The slags were heated in magnesite crucibles in Cryptol furnaces. TiO_2 decreases the viscosity of acid slags and increases the viscosity of basic slags. Ti_2O_3 and TiO increase the viscosity of both acid and basic slags. TiC, which is formed in larger amts. in basic slags than in acid slags, considerably increases the viscosity of both acid and basic slags. FeO decomposes TiC and thus improves the fluidity of the high-Ti blast-furnace slags. In the blast-furnace smelting of the high-Ti ores with slags low in FeO and MnO, Ti passes into the slag in the form of Ti_2O_3 and TiO; this decreases the fluidity of the slag. Higher temps. cause the formation of TiC. Low-temp. smelting facilitates the preservation of FeO and MnO in the slag and retards the formation of TiC. Mixts. contg. little Ti (agglomerates, primary Ural titanomagnesites) should be smelted with basic slags.

W. R. Henn

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3RD AND 4TH ORDERS

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9

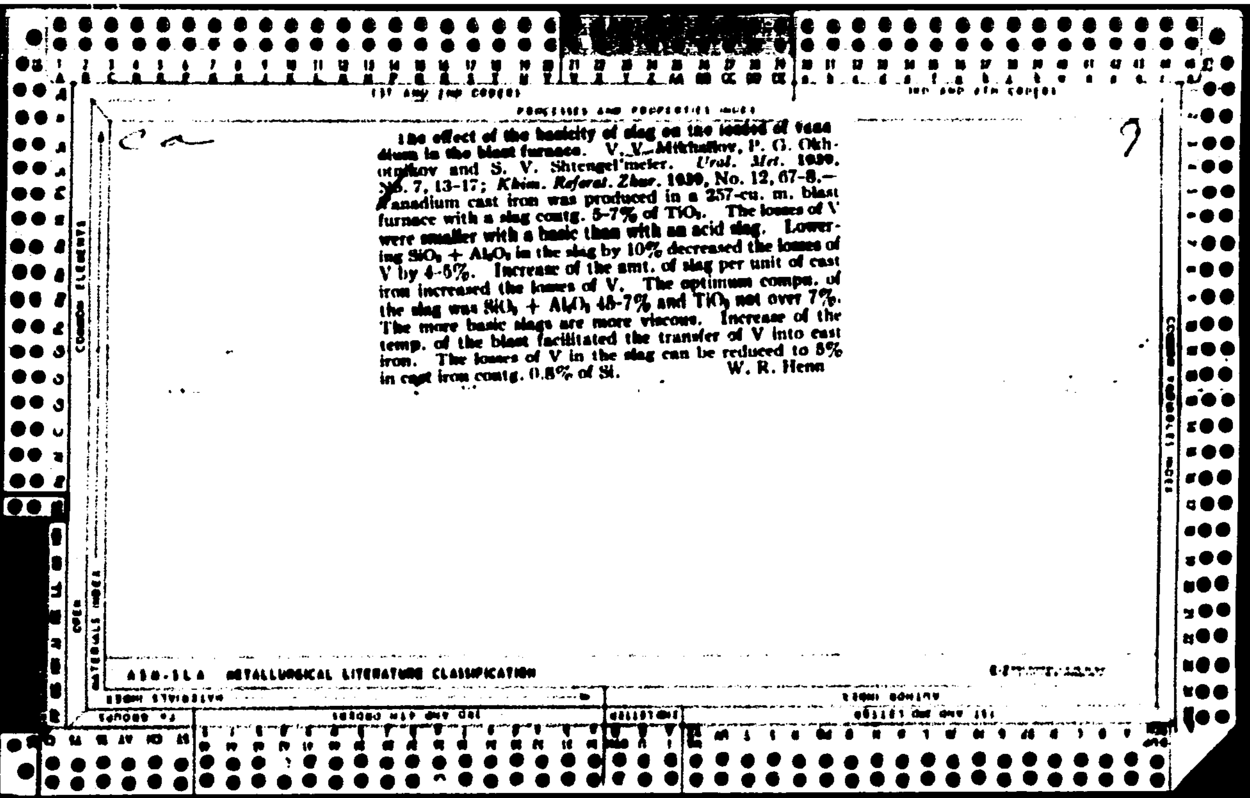
The passage of vanadium from its oxides into cast iron depending on the temperature, basicity and amount of slag. V. V. Mikhailov and S. V. Shtengel'meier. *Ural. Met.* 1939, No. 7, 9-13; *Khim. Referat. Zhur.* 1939, No. 12, 67.—V-free cast iron was treated in C crucibles with slags produced from SiO_2, Al_2O_3, CaO, MgO and V_2O_5. The acid slag m. 1200°, the basic slag m. 1300°. Below 800° V_2O_5 and V_2O_4 are reduced readily to V_2O_3 by means of CO. V_2O_4 is reduced to V_2O_3 by solid C only at 1200°. Free V_2O_3 in the fused slag is reduced at 1300° by C to metallic V, which passes into cast iron. Increase of the temp. of the blast facilitates rapid and complete transfer of V from the slag to the metal. To decrease the losses of V in the slag it is recommended to smelt V ores low in TiO_2 with basic slags, at higher temps. of the hearth of the blast furnace. Low ratio of slag to cast iron decreases losses of V.

W. R. Henn

COMMON ELEMENTS

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



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PROCESSES AND PROPERTIES INDEX

Ca

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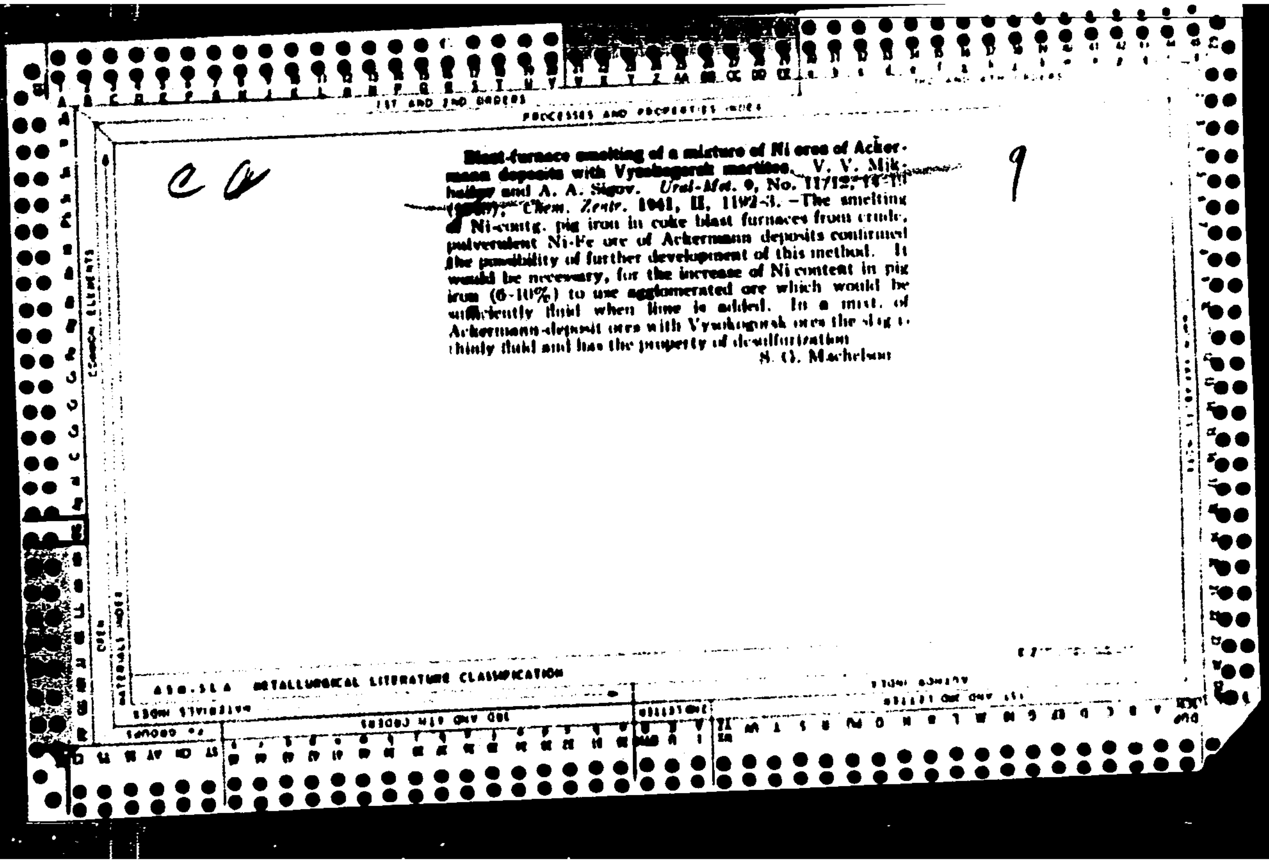
The effect of the basicity of slag on the losses of vanadium in the blast furnace. V. V. Mikhailov, P. G. Okhotnikov and S. V. Shtengel'meier. *Ural. Met.* 1939, No. 7, 13-17; *Khim. Referat. Zhur.* 1939, No. 12, 67-8.—Vanadium cast iron was produced in a 257-cu. m. blast furnace with a slag contg. 5-7% of TiO_2. The losses of V were smaller with a basic than with an acid slag. Lowering SiO_2 + Al_2O_3 in the slag by 10% decreased the losses of V by 4-6%. Increase of the amt. of slag per unit of cast iron increased the losses of V. The optimum compn. of the slag was SiO_2 + Al_2O_3 48-7% and TiO_2 not over 7%. The more basic slags are more viscous. Increase of the temp. of the blast facilitated the transfer of V into cast iron. The losses of V in the slag can be reduced to 5% in cast iron contg. 0.8% of Si. W. R. Henn

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

MIKHAYLOV, V.V."

Phase Transformations in Metals and Alloys
Crystallization and Recrystallization in Metals and Alloys

A.P. Komar, Ye. Belyakova, and V.V. Mikhaylov
X-ray Study of Titanium Nitrides and Carbonitrides
Metallurgist 4, 5,1940



1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

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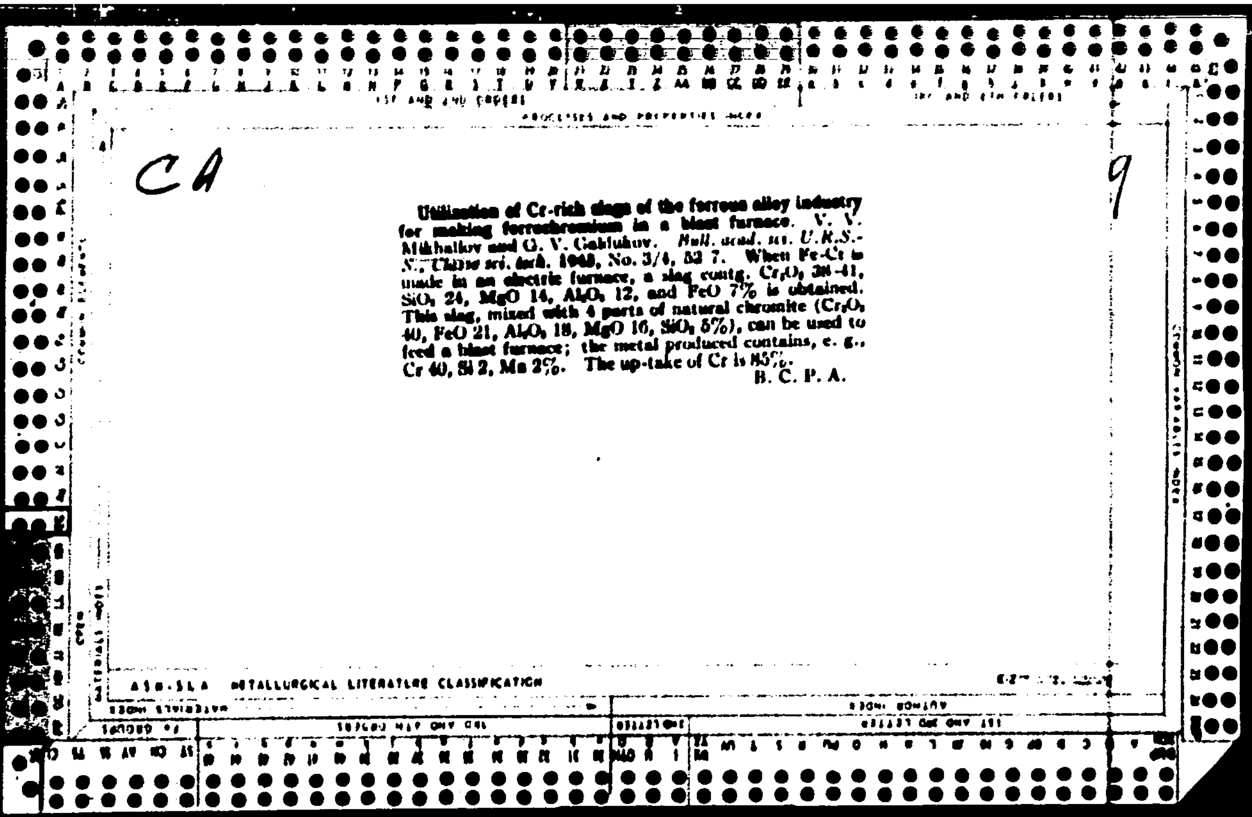
9

Blast-furnace smelting of a mixture of Ni ores of Ackermann deposits with Vysokogorsk martites. V. V. Mikhailov and A. A. Sigov. *Ural-Met.* 9, No. 11/12, 14-17 ([illegible]); *Chem. Zentr.* 1941, II, 1192-3.—The smelting of Ni-contg. pig iron in coke blast furnaces from crude, pulverulent Ni-Fe ore of Ackermann deposits confirmed the possibility of further development of this method. It would be necessary, for the increase of Ni content in pig iron (6-10%) to use agglomerated ore which would be sufficiently fluid when lime is added. In a mixt. of Ackermann-deposit ores with Vysokogorsk ores the slag is thinly fluid and has the property of desulfurization.

S. G. Machelson

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

9

Utilization of Cr-rich slags of the ferrous alloy industry for making ferrochromium in a blast furnace. V. V. Mikhailov and G. V. Gabluhov. *Bull. acad. sci. U.R.S.S., Classe sci. tech.* 1943, No. 3/4, 52 7. When Fe-Cr is made in an electric furnace, a slag contg. Cr_2O_3 38-41, SiO_2 24, MgO 14, Al_2O_3 12, and FeO 7% is obtained. This slag, mixed with 4 parts of natural chromite (Cr_2O_3 40, FeO 21, Al_2O_3 18, MgO 16, SiO_2 5%), can be used to feed a blast furnace; the metal produced contains, e. g., Cr 40, Si 2, Mn 2%. The up-take of Cr is 85%.

B. C. P. A.

MIKHAYLOV, V.V.

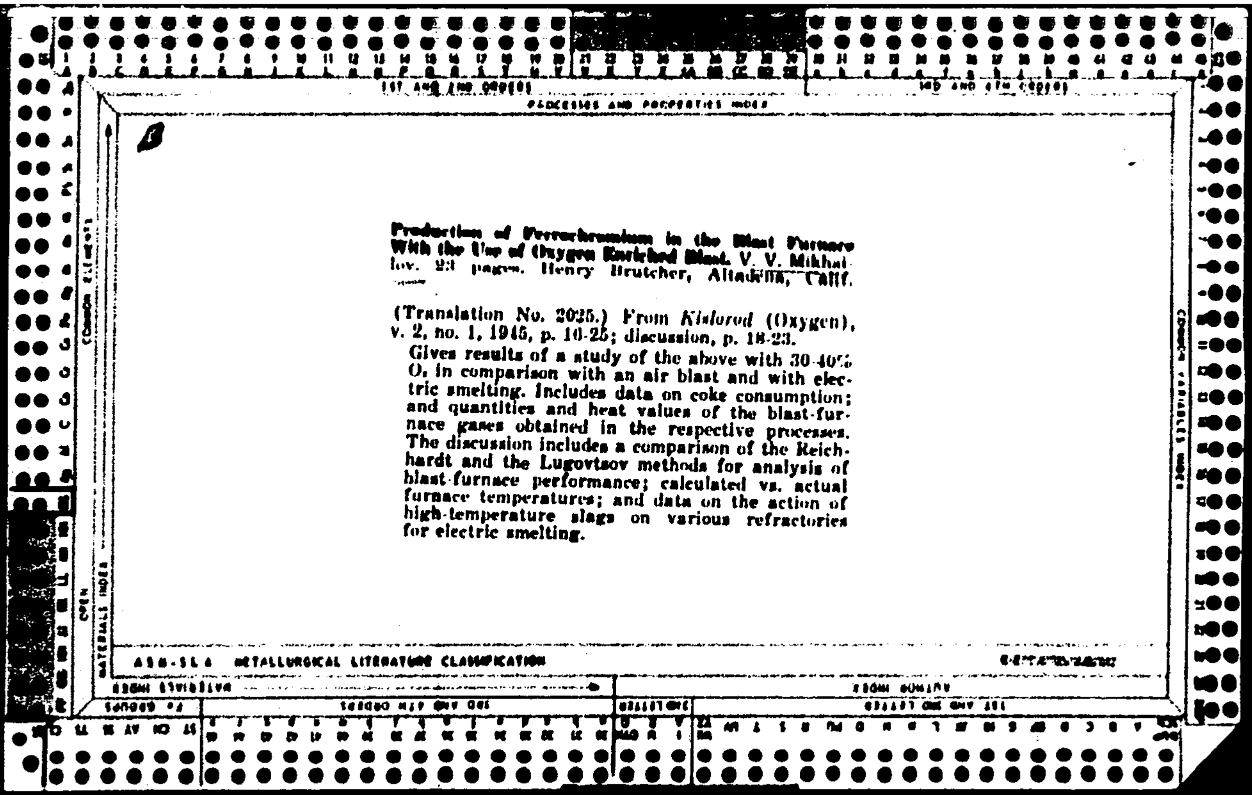
"A Manufacture of FE_CR Alboys in the Blast Furnace with Oxygen-Rich Blow,"
Kislorod, no.1, 1945

Dr., Dr. Tech. Sci., Lab. Metallurgy processes, Ural Affiliate Acad. Sci., USSR, -1945-.

MIKHAYLOV, V.V.

Alloys in the Blast Furnace with Oxygen-Rich Blow," Kislorod, no.1, 1945

Oder of the Labor Red Banner 1945



PROCESSES AND PROPERTIES INDEX

Production of Ferrochromium in the Blast Furnace With the Use of Oxygen Enriched Blast. V. V. Mikhailov. 23 pages. Henry Brutcher, Altadena, Calif.

(Translation No. 2025.) From *Kislorod* (Oxygen), v. 2, no. 1, 1945, p. 10-25; discussion, p. 18-23.

Gives results of a study of the above with 30-40% O_2 in comparison with an air blast and with electric smelting. Includes data on coke consumption; and quantities and heat values of the blast-furnace gases obtained in the respective processes. The discussion includes a comparison of the Reichhardt and the Lugovtsov methods for analysis of blast-furnace performance; calculated vs. actual furnace temperatures; and data on the action of high-temperature slags on various refractories for electric smelting.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

MIKHAYLOV, V. V.

USSR/Who's Who - Scientific 7500. Aug 1947

"Problem of Consumption of Metal and Reducing the Electric Energy Losses in the USSR Electrical Industries" 2½ pp

"Elektrichestvo" No 8

Lists the works of several scientists and engineers on title subject. Among those mentioned are A. I. Kolpakova of the Electro-Hear Planning, Engineers V. A. Vasil'ev and E. D. Kravchik, who are employed by a factory imeni Kalinin under the Ministry of Electrical Industry of the USSR, G. S. Plise, Member of the All-Union Committee of Standards of the Soviet of Ministers of the USSR, and Engineer V. V. Mikhaylov of the Technical Administration of the Ministry of the Electrical Industry of the USSR. Short descriptions of the individual articles written by the above-mentioned people.

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Electrocrystallization of metals. V. V. Mikhailov. *Uspekhi Khim.* 18, 724-30(1949).—A crit. review; 63 references.

N. Thon

MIKHAYLOV, V. V. Cand Chem Sci

Dissertation: "Effect of Electrolytes on the Potential of Copper Separation."
28/4/50

Moscow Order of Lenin Chemical Technological Inst imeni D. I. Mendeleyev.

SO Vecheryaya Moskva
Sum 71

MIKHAYLOV, V. K.

Kak mu varim Stal' V. Martenovskikh Pechakh, (How We Make Steel In Open hearth Furnaces) Maskva Izd-vo Pravda, 1951
21 p.

A head of title: Vsesoyuznoye Obshchestovo Po Rasprostrameniyu Politicheskikh I Nauchnykm Inaniy

Lecture of metallurgic Achievements of Stakhanovite workers in the "Serp I Molat" Factory

MIKHAYLOV, V. V. PA 192T31

USSR/Chemistry - Electrodeposition of Metals Mar/Apr 51

"Effect of Admixtures on the Electrodeposition of Metals," V. V. Mikhaylov, Moscow

"Uspekh Khim" Vol XX, No 2, pp 194-212

On basis of USSR and non-USSR investigations, examines effects of inorg and org admixts (added electrolytes and nonelectrolytes) on cathodic deposition of metals. Devotes considerable space to discussion of theory of action of admixts.

192T31

MIKHAYLOV, V.V.

USSR/Chemistry Physical chemistry

Card : 1/1

Authors : Mikhaylov, V. V.

Title : Effect of foreign ions on the potential of Cu-separation

Periodical : Zhur. fiz. khim. 28, Ed. 6, 1067 - 1075, June 1954

Abstract : The effect of foreign ions (cations), on the Cu-separation potential was investigated. The stable not changing cathode potential, obtained during Cu-separation by electrolysis of its solutions in conditions of strict current intensity constancy, is described. The reason for the displacement of the stable cathode potential, toward the zone of more negative potentials, is explained. Twenty-one references: 13 USSR, 7 German, 1 French. Tables, graphs, drawing.

Institution : The D. I. Mendeleyev Chemical-Technological Institute, Moscow

Submitted : September 5, 1953

MIKHAYLOV, V.V.

[illegible] by the [illegible]

[illegible] forces in solids have long been carefully studied, the same does not hold true for liquids. Liquids retain basically the same kind of mech. bonds that have previously existed in the corresponding solids. Liquids can be approx. classified by their bond type into mol., metallic, and heteropolar liquids, with a H bond. No information is as yet available on the existence of liquids with covalent

LFH

MIKHAYLOV, V.V.

USSR/Chemistry - Metallurgy

Card 1/1 Pub. 22 - 23/47

Authors : Korkiya, I. L.; Yesin, O. A.; and Mikhaylov, V. V.

Title : Mechanism of desulfurization of cast iron

Periodical : Dok. AN SSSR 101/6, 1065 - 1067, Apr. 21, 1955

Abstract : Experiments were conducted with the aid of radioactive Fe^{59} isotope to confirm whether the iron which appears in slag together with sulfur is in the form of small metal beads (ejected by the forming gases) or in the form of FeS molecules. Tests with graphite and magnesia crucibles showed that more sulfur penetrates into the slag than iron but the FeS and FeO molecule concentrations are equal. The process of desulfurizing cast iron is explained. It is pointed out that the appearance of sulfur in the cast iron is mainly due to the formation of calcium carbide in the slag. Four references: 2 USSR and 2 USA (1948-1952). Table; diagram.

Institution : Acad. Sc., USSR, Ural Branch, Inst. of Chem. and Metallurgy

Presented by: Academician I. P. Bardin, September 14, 1954

MIKHAYLOV, V.V.

Temperature Control in the Blast Furnace Hearth by the Physical and Chemical Properties of the Slags in the Smelting of Pig-Iron. W W. Michailow (*Neue Hütte*, 1956, I, Feb., 135–137). The principal factor determining hearth temperature is the temperature at which primary slag attains a completely liquid state. A slag of optimum viscosity is obtained by careful temperature control of the burden. The presence of magnesium in the slag makes for fluidity but sulphur in the pig iron may inhibit this. Magnesium has a favourable effect on the production of cold chemical pig iron.

MIKHAYLOV, V. V.

24-12-15/24

AUTHORS: Yesin, O.A., Korkiya, I. L. and Mikhaylov, V.V. (Sverdlovsk).

TITLE: Electrolytic desulphuring of iron. (Elektroliticheskoye obesserivaniye chuguna).

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1957, No.12, pp. 71-76 (USSR)

ABSTRACT: The possibility of electro-chemical purification of metals from sulphur was experimentally proved in an earlier paper of the authors (Ref.1). In this paper the results are given of investigating the process of desulphuring of liquid iron by means of electrolysis. In para.1 the possible cathodic processes are considered; para.2 deals with the role of diffusion; para.3 deals with the anodic process; in para.4 the experimental technique is described, using an electrolysis furnace as shown in Fig.1 with a charge of 5 kg of iron and about 1.2 kg of slag. In para.5 the results of preliminary experiments are described; para.6 deals with the sequence of the electrode processes and para.7 deals with the influence of the current density and the basicity of the slag. In the experiments the process of electrolytic desulphuring of liquid iron with high sulphur contents at the

Card 1/3

temperature 1480 to 1500°C was studied, using ordinary and high magnesium content synthetic blast furnace slags. It is shown that the sequence of the cathodic processes corresponds to the respective potentials, namely, first the sulphur dissolves, this is followed by the reduction of chrome and, finally, the reduction of silicon takes place. The potentials for oxides at 1500°C are given for a number of reactions in Table 1; the results of preliminary tests on desulphuring irons are given in Table 2; Table 3 contains data on the results of tests carried out in a furnace with a chromium magnesite lining; Table 4 gives the consumption in ampere hours for desulphuring iron and reducing chromium and silicon for the slag for each thirty minutes of the smelting time; Table 5 gives the influence of the current density on the process of desulphuring for a test duration of ninety minutes, whilst Table 6 gives the influence of the basicity of the slag on the specific current efficiency in respect to sulphur for a current intensity of 75 A and a test duration of ninety minutes. Fig.2 shows the change in the sulphur content in the slag as a function of time for initial sulphur contents of 0.5 to 0.6%, using high

Electrolytic desulphuring of iron. 24-12-15/24

magnesium slags, both for the case of passing a current through the electrolyte as well as for the reaction without passage of current.
There are 2 figures, 6 tables and 10 references, 9 of which are Slavic.

SUBMITTED: April 17, 1957.

AVAILABLE: Library of Congress.

Card 3/3

SOV/137-58-7-14237

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 40 (USSR)

AUTHORS: Mikhaylov, V.V., Bratchikov, S.G.

TITLE: The Viscosity of High-alumina Slags (Vyazkost' vysokoglinozemistykh shlakov)

PERIODICAL: Tr. Ural'skogo politekhn. in-ta, 1957, Nr 67, pp 108-113

ABSTRACT:

During the smelting of iron bauxites one of the important prerequisites for the successful working of a blast furnace is the obtaining of low-viscosity high-alumina slags (HS). The viscosity η of slags with a low [SiO_2] was measured on a viscosimeter according to the angle of torsion of the elastic thread attached to a carbon spindle which rotates in the molten HS. Eight specimens of synthetic HS with 3-8% [SiO_2] and the slag of an operating blast furnace of the Pashiya cement-metallurgical plant (SiO_2 10.2%) were examined. The results of the investigation corroborate the diluting fluidifying role of Ca in HS and, contrary to the data in the literature, show a low η of the slag with [SiO_2] < 8%. At 1600°C the η of slags with 42% CaO and <8% [SiO_2] does not exceed 6 poises and at 1500° does not exceed 10 poises, which proves the possibility of

Card 1/2

SOV/137-58-7-14237

The Viscosity of High-alumina Slags

blast-furnace smelting of slags of a similar chemical composition for the aluminum and the cement industry.

A.R.

1. Blast furnaces--Performance 2. Slags--Viscosity 3. Slags--Test results 4. Bauxite--Applications 5. Aluminum oxides--Applications

Card 2/2

137-58-6-11484

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 33 (USSR)

AUTHORS: Mikhaylov, V.V., Bratchikov, S.G., Serebrennikova, Ye.S.

TITLE: An Investigation of the Heats of Formation of High-alumina Slags (Issledovaniye teplot obrazovaniya vysokoglinozemistykh shlakov)

PERIODICAL: Tr. Ural'skogo politekhn. in-ta, 1957, Nr 67, pp 114-123

ABSTRACT: The heats of formation of high-alumina slags used in blast-furnace smelting were determined by calorimetry. A mixture of finely-divided (-200 mesh) powders of CaO (99.7%), Al_2O_3 (99.67%) and SiO_2 (98.86%), totaling 3 g in weight, with 0.8 g added charcoal, contained in a Pt crucible, is placed in a calorimeter bomb in which an O_2 pressure of 30 atm abs is established. The mixture is ignited by an electrically heated wire. The calorimeter bomb is placed in a calorimeter. The temperature is measured to an accuracy of $\pm 0.002^{\circ}C$. The heat from the combustion of the wire and the paper sleeve in which the mixture in the Pt cup is housed, is determined by comparison with control experiments. The heat capacity of the calorimeter is determined by burning benzoic acid. The fusion

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137-58-6-11484

An Investigation of the Heats of Formation of High-alumina Slags

products are slag beads of entirely homogeneous composition, a fact that is checked by measuring optical constants and by mineralogical analysis. The measurements are accurate to within ±6.0% of the value read. 12 compositions are studied, having the following % composition: 3-10 SiO_2, 35-48 CaO, and 42-62 Al_2O_3. In addition, the heats of formation of $2CaO \cdot Al_2O_3 \cdot SiO_2$, $CaO \cdot Al_2O_3$, and $5CaO \cdot 3Al_2O_3$ are determined, and are found to be 81, 36, and 43 kcal/kg, respectively. For other high-alumina slags the heat of formation is calculated by the formula $q = (1.1CaO + SiO_2)$ kcal/kg, where CaO and SiO_2 are in weight %.

I.K.

1. Slags--Heat of formation 2. Slags--Analysis 3. Colorimeters--Applications
4. Colorimeters--Equipment

Card 2/2

137-58-5-9006

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 37 (USSR)

AUTHORS: Mikhaylov, V.V., Bratchikov, S.G.

TITLE: A Study of Temperatures Accompanying Primary Slag Formation in the Smelting of Bauxite (Izucheniye pervichnogo shlakoobrazovaniya pri plavke boksita)

PERIODICAL: Tr. Ural'skogo politekhn. in-ta, 1957, Vol 67, pp 124-130

ABSTRACT: Five samples of bauxite with 2-3 mm grains were investigated. Three of these samples were preliminarily reduced in a stream of CO; granulated limestone (2-3 mm) was added to one of the remaining samples in an amount equivalent to 80% of the weight of the bauxite. A metallic crucible containing the sample of bauxite was placed into a resistance furnace which had been preheated to a temperature of 500°C and contained a carbon tube 45 mm in diameter. The sample was then heated at a rate of three degrees per minute. It established that, although the reduced bauxite becomes soft at 1000-1100° if no CaO is present in the charge, the formation of primary Fe slag takes place at temperatures above 1600°, which is attributable to the formation of a fusion-resistant chemical compound, $FeAl_2O_4$. In pre-

Card 1/2

137-58-5-9006

A Study of Temperatures (cont.)

sence of CaO the melting point of slag decreases to 1400-1420°. In the process of melting of bauxite the CaO serves as a slag-diluting agent. In the course of formation of slag, FeO contained in the $FeAl_2O_4$ is displaced by the stronger basic oxide, CaO, and is then reduced directly.

G.S.

1. Bauxite--Processing 2. Slags--Development 3. Slags--Temperature factors

Card 2/2

MIKHAYLOV, V.V.

Akademiya nauk SSSR. Ural'skiy filial. Institut metallurgii

Trudy, Vyp. 4 (Transactions of the Institute of Metallurgy, Ural Branch, Academy of Sciences, USSR; No. 4) Sverdlovsk, 1958. 157 p. Errata slip inserted. 1,000 copies printed.

Editorial Board: S.A. Vetolin (Resp. Ed.), Candidate of Technical Sciences; A.S. Mikulinskiy, Professor, Doctor; V.Ya. Miller, Professor; P.A. Pazdnikov, Candidate of Technical Sciences; and S.S. Lisnyak, Candidate of Technical Sciences; Ed.: N.S. [illegible].

PURPOSE: This book is intended for ferrous and nonferrous metallurgists.

COVERAGE: The book presents results of investigations of theoretical problems in metallurgy and chemistry and gives information on the efficient use of raw materials in ferrous and nonferrous metallurgy and on the development of new production processes in the metallurgical and chemical industries. The articles were written by junior members and experienced specialists of the scientific staff of the Institutes of Metallurgy, Chemistry, and Electrochemistry, Ural Branch, Academy of Sciences, USSR.

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MIKHAYLOV, V. V.

18(0) PHASE I BOOK EXPLOITATION SOV/1728

Akademiya nauk SSSR. Institut metallurgii

Sovremennyye problemy metallurgii (Modern Problems in Metallurgy) Moscow, Izd-vo AN SSSR, 1958. 640 p. 3,000 copies printed.

Resp. Ed.: A.M. Samarin, Corresponding Member, USSR Academy of Sciences; Eds. of Publishing House: V.S. Rzhevnikov, and A.N. Bernov; Tech. Ed.: T.V. Polyakova.

PURPOSE: This book is intended for scientific and technical personnel in the field of metallurgy.

COVERAGE: This is a collection of articles on certain aspects of Soviet metallurgy. The book is dedicated to Academician Ivan Pavlovich Bardin on the occasion of his 75th birthday. The book is divided into seven parts. The first part consists of two articles presenting a brief account of the biography and professional activity of the Soviet metallurgist. It includes an article by John Chipman, Nicholas Grant, and John Elliott (M.I.T., USA) describing their meeting with Bardin in Moscow and also his visit to the United States. The second part consists of three articles and deals with raw materials and fuels for the Soviet metallurgical industry. The third part represents the major portion of the book. It consists of 25 articles dealing with the various aspects of the metallurgy of pig iron and steel. The fourth part consists of two articles treating the metallurgy of nonferrous metals. The fifth part consists of three articles on the forming of metals. The sixth part consists of eight articles discussing certain aspects of physical metallurgy. The last part deals with general problems in the field of metallurgy. References are given after each article. No personalities are mentioned.

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Modern Problems in Metallurgy SOV/1728

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MIKHAYLOV, V.V.; SHAVRIN, S.V.; CHENTSOV, A.V.; KUSAKIN, P.S.;
SAPOZHNIKOVA, T.V.; OSINOVSKIKH, L.L.

Continuous process of separating titanium slags from iron-titanium concentrates. Trudy Inst. met. UFAN SSSR no.2:47-54 '58.
(MIRA 12:4)

(Titanium ores) (Ore dressing)

MIKHAYLOV, V.V.; KUDINOV, B.Z.; ZHUCHKOV, V.I.; CHENTSOV, A.V.;
OSINOVSKIKH, L.L.

Smelting Bakal ores with maximum use of siderites in blast furnace charges. Trudy Inst. met. UFAN SSSR no.2:61-66 '58.

(MIRA 12:4)

(Bakal region--Siderites) (Blast furnaces)

MIKHAYLOV, V.V.; KUDINOV, B.Z.; ZHUCHKOV, V.I.

Behavior of oxides in metallurgical treatment of boron-containing ores. Trudy Inst. met. UFAN SSSR no.4:97-100 '58. (MIRA 12:10)

(Steel--Metallurgy) (Boron)

KOROTICH, V.I.; MIKHAYLOV, V.V.

Sintering of sulfurous bauxites. Trudy Ural.politekh.inst. 73:5-22 '58. (MIRA 12:8)

(Bauxite) (Sintering)

KOROTICH, V.I.; MIKHAYLOV, V.V.

Preparing gehlenite dialuminate slags satisfactory for use in
the aluminum industry. Trudy Ural.politekh.inst. 73:23-37
'58. (MIRA 12:8)
(Aluminum) (Slag)

V. V. [illegible]

24(8) PHASE I BOOK EXPLOITATION SOV/2117

Soveshchaniye po eksperimental'noy tekhnike i metodam vysokotemperaturnykh issledovaniy, 1956

Eksperimental'naya tekhnika i metody issledovaniy pri vysokikh temperaturakh; trudy soveshchaniya (Experimental Techniques and Methods of Investigation at High Temperatures; Transactions of the Conference on Experimental Techniques and Methods of Investigation at High Temperatures) Moscow, AN SSSR, 1959. 789 p. (Series: Akademiya nauk SSSR. Institut metallurgii. Komissiya po fiziko-khimicheskim osnovam proizvodstva stali) 2,200 copies printed.

Resp. Ed.: A.M. Samarin, Corresponding Member, USSR Academy of Sciences; Ed. of Publishing House: A.L. Bankvitser.

PURPOSE: This book is intended for metallurgists and metallurgical engineers.

COVERAGE: This collection of scientific papers is divided into six parts: 1) thermodynamic activity and kinetics of high-temperature processes 2) constitution diagram studies 3) physical properties of liquid metals and slags 4) new analytical methods and production of pure metals 5) pyrometry, and 6) general questions. For more specific coverage, see Table of Contents.

Shashkov, Yu.M. Method of Measuring Electrical Conductivity of Molten Slags 306

Nikitin, Yu.P., and O.A. Yesin. Measurement of Surface Charge Density of Liquid Metal in Contact With Slag 313

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Bidulya, P.N., and N.A. Trubitsyn. Measurement of Linear Shrinkage and Resistance to Hot-Crack Formation in Steel 367

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11

Mikhaylov, V. V.

PHASE I BOOK EXPLOITATION SOV/4613

Akademiya nauk SSSR. Ural'skiy filial. Institut metallurgii

Voprosy kontrolya i kompleksnogo ispol'zovaniya syr'ya v metallurgii (Problems of Control and Complete Utilization of Raw Materials in Metallurgy) Sverdlovsk, 1960. 194 p. (Series: Its: Trudy, vyp. 5) Errata slip inserted. 1,000 copies printed.

Resp. Eds.: M. I. Kochnev, and V. P. Chernobrovkin, Candidates of Technical Sciences. Ed. of Publishing House: I. M. Damin; Tech. Eds.: L. A. Izmodenova, and N. F. Seredkina.

PURPOSE: This collection of articles is intended for technical personnel of metallurgical plants and for members of scientific research institutes.

COVERAGE: The collection contains articles discussing a variety of problems pertaining to ferrous and nonferrous metallurgy. A number of articles describe new methods for investigating the properties of alloys and oxides and review changes which these properties undergo as a result of the effect of temperature and other factors. Findings of studies are summarized

Card 1/5

in numerous articles and processes to be used for manufacturing ferroalloys and naturally-alloyed steels are suggested. Characteristics of various metal compounds are given and measures for the most efficient utilization of ores are indicated. Some of the articles are devoted to the study of problems of manufacturing ferrous , nonferrous, and rare metals. The selection of topics was made on the basis of the need for material relating to the improvement of the quality control of alloys and the manufacturing processes employed to produce them. No personalities are mentioned. Each article is accompanied by references, most of which are Soviet.

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MIKHAYLIKOV, S.V.; MIKHAYLOV, V.V.

Investigating the feasibility of retaining chromium in steel during the blowing of naturally alloyed chromium cast iron. Trudy Inst.met.UFAN SSSR no.5:21-39 '60. (MIRA 13:8)
(Chromium steel--Metallurgy)

S/031/60/000/010/003/005
A161/A026

AUTHOR: Mikhaylov, V.V., Academician

TITLE: Scientists' Part in the Starting of the First Blast Furnace of Kazakhstan

PERIODICAL: Vestnik Akademii nauk Kazakhskoy SSR, 1960, No. 10, pp. 92 - 93

TEXT: The Khimiko-metallurgicheskiy institut Akademii nauk KazSSR (Institute of Chemistry and Metallurgy of the Academy of Sciences of the Kazakhskaya SSR) investigated the metallurgical properties of ore to be melted in the first completed blast furnace of the Karagandinskiy metallurgicheskiy zavod (Karaganda Metallurgical Plant). For the beginning the blast furnace of this plant will melt raw Atasuy ore (from the Karadzhal deposit). This ore is firm hematite. The ore sample taken from the plant contained 55.9% iron (total); 17.7% silica; 0.65% alumina; 78.25% Fe_2O_3; 1.45% FeO; 0.90% CaO; 0.60% MgO; 0.45% MnO; and only 0.05% P and 0.06% S. Carbon monoxide with 1 -2% hydrogen was used for reduction in the laboratory. Reducibility of the ore was determined by the quantity ratio between the oxygen extracted in the process and the total oxygen content. Reduction was particularly intensive from 500°C up; 35% was reduced in one hour (compared with the reducibility of 11% of the Goroblagodatskiy magnetite

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S/031/60/000/010/003/005
A161/A026

Scientists' Part in the Starting of the First Blast Furnace of Kazakhstan

containing 64% iron). At 700 and 900°C reducibility was 74 and 92% (compared with 59 and 85% respectively of the mentioned magnetite). It was stated that a crushing into 50 mm lumps is necessary, and the smalls must be screened off and sintered. It was also stated that the Atasuy hematite has a lower reducibility than the rich Krivoy Rog hematite containing 59% iron and 8% silicon dioxide. It began softening at 1050°C, and slag formation started at 1150 - 1200°C, which is good for melting hot chemical foundry iron. Possible maximum blast temperature at the Karaganda Plant is 1200°C, and ferrosilicon with good properties may be produced if necessary. As the ore from Karadzhal has a varying content of silicon dioxide and iron, the laboratory investigated the effect of the charge combinations and selected slag compositions that were tested during five days of continuous experiments in the electric blast furnace at the Institute. Slags have been recommended. [(Abstracter's Note: the slag compositions are not given)]. The new blast furnace has been blown-in successfully. The output could be considerably raised after 50 days, and foundry iron of high quality was obtained. The author points out that scientific assistance must not consist only in such investigations that reveal the peculiarities and irregularities of the process enabling experienced metallurgists to eliminate faults; Studies are

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S/031/60/000/010/003/005
A161/A026

Scientists' Part in the Starting of the First Blast Furnace of Kazakhstan

necessary to improve the process by means like natural or coke-gas blast, by the use of maximum blast temperature (up to 1,200°C), determination of the optimum crushing degree of ore for fast blast furnace process with minimum coke consumption.

√

Card 3/3

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S/508/60/028/000/003/022
D237/D305

AUTHOR: Mikhaylov, V.V. (Moscow)

TITLE: On analytical representation of thermodynamic functions of dissociating air

PERIODICAL: Akademiya nauk SSSR. Otdeleniye tekhnicheskikh nauk. Inzhenernyy sbornik, v. 28, 1960, 36 - 43

TEXT: The author considers here the following reactions

$$O_2 + 5.11ev \rightleftarrows O + O;$$

$$N_2 + 9.76ev \rightleftarrows N + N;$$

$$N + O \rightleftarrows NO + 6.49$$

occu[illegible]ng in the temperature range T = 2000°-8000° and obtains approximate expressions by neglecting secondary excitations of degrees of freedom of the component particles. The equilibrium conditions for the above are given by

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$$\frac{n_O n_N}{n_{NO}} = \frac{f_O f_N}{f_{NO}} \circ e^{-\frac{D}{kT}}$$

where f - statistical sums of particles, i.e. sums of the type $\sum_i g_i e^{-\frac{\varepsilon_i}{kT}}$; g_i - statistical weight of the component of energy ε_i; n - number of particles of the given type per volume V; D_i - energies of dissociation of the molecules; k - Boltzmann's constants. It is assumed that f can be expressed as $f = f_T \cdot f_R \cdot f_v \cdot f_e$, where T, R, v, e have the usual meaning and $f_T = \text{const.} \cdot T^{3/2} \cdot V$. $f_R = \text{const} \circ T$, $f_v = \text{const} \circ T^{\lambda}$ and $f_e = m$, where m - number of excited levels, and

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$$\alpha_1 = \frac{n_O}{2N}, \qquad \alpha_2 = \frac{n_N}{2N}, \qquad \beta = \frac{n_{NO}}{N},$$

is introduced, where N - number of undissociated molecules. The author obtains

$$\frac{\alpha_1^2}{\eta_1 - \alpha_1 - \frac{\beta}{2}} = \frac{A_1}{\rho T^{\nu}} \cdot e^{-\frac{T_1}{T}};$$

$$\frac{\alpha_2^2}{\eta_2 - \alpha_2 - \frac{\beta}{2}} = \frac{A_2}{\rho T^{\nu}} \cdot e^{-\frac{T_2}{T}}; \qquad (2)$$

$$\frac{\alpha_1 \alpha_2}{\beta} = \frac{A_3}{\rho T^{\nu}} \cdot e^{-\frac{T_3}{T}}.$$

where η_1, η_2 - partial volumes of O_2 and N_2; A_1 - constants,

$$\nu = \lambda - \frac{1}{2}; \qquad T_1 = \frac{D_1}{k}; \qquad \rho = \frac{mN}{V}.$$

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Composition of dissociating gas is given by

$$\frac{p}{R} = \rho T(1 + \alpha), \qquad (4)$$

its enthalpy by

$$\frac{H}{R} = \frac{1}{R}(u + \frac{p}{\rho}) = [4 + \nu + \alpha(1 - \nu)]T + \alpha_1 T_1 + \alpha_2 T_2 + (\frac{T_1+T_2}{2} - T_3)\beta \qquad (5)$$

U and H by

$$\frac{U}{R} = [3 + (1 - \alpha)\nu]T + \alpha_1 T_1 + \alpha_2 T_2 + (\frac{T_1+T_2}{2} - T_3)\beta - 2600\nu, \qquad (6)$$

$$\frac{H}{R} = [4 + \nu + \alpha(1 - \nu)]T + \alpha_1 T_1 + \alpha_2 T_2 + (\frac{T_1+T_2}{2} - T_3)\beta - 2600\nu. \qquad (7)$$

(6) and (7) with (2) gives the expression for entropy, which is

$$S = \int \frac{dU + p\,d\left(\frac{1}{\rho}\right)}{T}, \qquad (8)$$

$$\frac{S}{R} = [3 + (1 - \alpha)\nu] \ln T - (1 + \alpha) \ln \rho + \sum_{1}^{2} \alpha_i \ln \frac{\Lambda_i e^{1-\nu}}{\alpha_i^2} - \sum_{1}^{2} \left(\eta_i - \alpha_i - \frac{\beta}{2}\right) \ln \left(\eta_i - \alpha_i - \frac{\beta}{2}\right) + \beta \ln \frac{\sqrt{\Lambda_1 \Lambda_2 d}}{\Lambda_3 \beta} + \text{const.} \qquad (8)$$

Equations (2), (4), (7) and (8) are seen to be analytical expressions for the thermodynamic functions of dissociating air. For a one-component gas with v = 0, they become known expressions for ideal dissociating gas, derived by Lighthill. It should be noted that (2) does not give an exact solution w.r. to α_1, α_2, β. However, an approximate solution is easily obtained by making β small. For pressures less than 10 atm. concentration of NO can be disregarded, i.e. $\beta = 0$ in which case (2) has an exact solution, and the whole system becomes

$$\frac{H}{R} = [4 + \nu + \alpha(1 - \nu)]T + \alpha_1 T_1 + \alpha_2 T_2 - 2600\nu; \qquad (9)$$

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$$\frac{S}{R}=[3+(1-\alpha)\nu]\ln T-(1+\alpha)\ln\rho+\sum_1^2\alpha_i\ln\frac{A_ie^{1-\nu}}{\alpha_i^2}-$$
$$-\sum_1^2(\eta_i-\alpha_i)\ln(\eta_i-\alpha_i)+\text{const}; \tag{9}$$
$$\frac{p}{R}=\rho T(1+\alpha);\ \ \alpha_i=\frac{2\eta_i}{\sqrt{1+\nu+4\eta_i\frac{\rho T^{\nu}}{A_i}e^{\frac{T_i}{T}}}}.$$

from which expressions for velocity of sound and specific heat at constant volume are easily obtained. The author concludes that accuracy of (9) falls with pressure increase. In comparison graphs, the curves at constant pressure were plotted by the method of successive approximations. There are 4 figures and 2 references: 1 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: M.J. Lighthill, Dynamics of Dissociating Gas, Part I, Equilibrium Flow, J. Fluid Mech.v.2,pt.1 1957.

Card 6/6

KOROTICH, V.I., kand.tekhn.nauk; MIKHAYLOV, V.V., akademik; KOZLOVA, [illegible].G.,
kand.tekhn.nauk

Mineralogical composition of bauxite sinters. Trudy Ural. politekh.
inst. no.91:128-138 '60. (MIRA 14:3)
(Bauxite—Analysis) (Sintering)

REZNICHENKO, V.A.; SIDORENKO, G.D.; SOLOV'YEV, V.I.; KARYAZIN, I.A.;
DMITROVSKIY, Ye.B.; AFANAS'YEV, T.V.; Prinimali uchastiye:
MIKHAYLOV, V.V.; SHAVRINA, S.V.; CHENTSOV, A.V.

Developing a procedure for the electric smelting of perovskite and titanium-magnetite sinter. Titan i ego splavy no.5:54-59 '61. (MIRA 15:2)
(Titanium--Electrometallurgy)

MIKHAYLOV, V.V.; SHAVRIN, S.V.; CHENTSOV, A.V.

Testing a metallurgical flowsheet for the treatment of disseminated ores. Titan i ego splavy no.5:65-68 '61. (MIRA 15:2)
(Ore dressing--Testing)

29156
S/508/61/031/000/006/009
D234/D305

24.5300

AUTHOR: Mikhaylov, V.V. (Moscow)

TITLE: Approximate analytical representation of thermodynamical functions of the air

SOURCE: Akademiya nauk SSSR. Institut mekhaniki. Inzhenernyy sbornik, v. 31, Moscow, 1961, 206-216

TEXT: This is a continuation of the work of V.V. Mikhaylov (Ref. 1: Ob analiticheskom predstavlenii termodinamicheskikh funktziy dissotziiruyushchego vozdukha. Inzhenernyy sbornik /Abstracter's note: Number and year missing in reference/). The present paper offers formulae analogous to those of the first one, but valid in a wider range of temperatures. The author considers the domain of simple ionization and obtains formulae for thermodynamical quantities, valid in that domain, which are then combined with the results of the first paper so as to give formulae valid also in the domain of dissociation. Graphs of v, c_v, h, c_p, S, α and μ_0/μ

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Approximate analytical...

(as functions of T) are given, where the results according to the combined formulae are compared with exact values of the quantities. There are 7 figures and 3 Soviet-bloc references.

SUBMITTED: January 11, 1960

Card 2/2

S/258/62/002/002/004/018
I028/I228

AUTHOR: Mikhaylov, V. V. (Moscow)

TITLE: Approximation of the enthalpy and the equation of state of carbonic acid gas

PERIODICAL: Inzhenerny zhurnal, v. 2, no. 2, 1962, 239-245

TEXT: Simple analytical expressions for the thermodynamic functions of carbonic acid gas, suitable for computer calculations of hypersonic flows past bodies, are established for temperatures up to 12000°K and pressures up to 1000 kg/cm^2. The system of 12 equations with 12 variables determining the equilibrium of the reactions taking place in carbonic acid gas at these temperatures is solved approximately, and formulas are obtained for the enthalpy and the equations of state. The values obtained for the enthalpy for different values of P and T within the above indicated limits are represented in tabular form, and compared with tabular data obtained at the Energeticheskiy institut AN SSSR (Institute of Energetics of AS USSR). The discrepancy between the two sets of results is 1%. There are 2 tables.

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SUBMITTED: December 19, 1961

Card 1/1

MIKHAYLOV, V. V.

"The Role Played by Acetylcholine in the Activity of the Parasympathetic Innervation of the Heart of Cold-blooded and Warm-blooded Animals." Cand Med Sci, Kazan Medical Inst; Biological Inst of the Kazan Affiliate of Acad Sci, USSR, Kazan, 1953. (RZhBiol, No 2, Sep 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (10)

SO: Sum. No. 481, 5 May 55

MIKHAYLOV, V. V.

"The Physiological Concept of Sport Uniforms." Cand Biol Sci, State Central Order of Lenin Inst of Physical Culture imeni I. V. Stalin, 24 Dec 54. (VM, 14 Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556 24 Jun 55

MIKHAYLOV, V.V.

EXCERPTA MEDICA Sec.5 Vol.10/3 Gen.Pathology Mar 57

918. **MIKHAYLOFF V. V.** State Med. Inst. Stalin, Moscow. * The site of attack of botulinus toxin on interneuronal connections of the spinal cord (Russian text) ARKH. PATOL. 1956, 18/4 (29-34) Graphs 3

In earlier work it was shown that in botulinus intoxication, there is no marked functional damage to the peripheral nerve bundles and the myoneural connections. Intramuscular injections of 6000 to 7500 Dem of botulinus toxin per kg. into the thighs of cats, after 2 to 3 days led to a disturbance of the reflex activity of the spinal cord (on injection into the sciatic nerve the disturbance developed after 3 to 6 days). The disturbance consists of loss of the simple and complex reflexes of the paralytic extremity, from which contralateral reflexes to the other extremity develop. The afferent parts and the intermediary portions of the spinal reflex arch are not affected by the botulinus toxin. In intra-arterial administration of the toxin, no effect on the chemoreceptors of the skin and of the striated muscles was brought about. Brandt - Berlin (V, 4, 8*)

MIKHAYLOV, V.V., kandidat meditsinskikh nauk

On the results of the fourth enlarged plenum of the administration of the All-Union Society of Pathophysiologists. Arkh.pat. 18 no.5:124-126 '56. (MLRA 9:12)
(PHYSIOLOGY, PATHOLOGICAL)

MIKHAYLOV, V.V.

[redacted]

Mechanism of disturbance of the parasympathetic innervation of the heart in experimental intoxication with type A poison botulism. Biul. eksp. biol. i med. 41 no.1:42-45 Ja. '56 (MLRA 9:5)

1. Iz kafedry patologicheskoy fiziologii (zav.-chlen-korrespondent AMN SSSR A.D. Ado) II Moskovskogo meditsinskogo instituta imeni I.V. Stalina. Predstavleno deystvitel'nym chlenom AMN SSSR V.N. Chermigovskim.

(SALMONELLA INFECTIONS, exper.
type A, mechanism of parasympathetic cardiac innervation destruction)
(HEART, innerv.
parasympathetic, destruction mechanism in exper. A type salmonella infect. in dogs)
(NERVOUS SYSTEM, PARASYMPATHETIC,
innerv. of heart in dogs, destruction mechanism in exper. A type salmonella infect. in dogs)

MIKHAYLOV, V.V.

The mechanism of the action of botulinus type A toxin on **frog heart**. G. A. [illegible] and V. V. Mikhailov [illegible] State **2nd Med.** Inst. Moscow. *Bull. Exptl. Biol. and Med.* [illegible] the isolated heart [illegible] vagus nerve

YERZINA, G.A.,; MIKHAYLOV, V.V.

Mechanism of action of botulin A on the heart in frog. Biul. eksp. biol. i med. 41 no.2:30-33 F '56. (MIRA 9:6)

1. Iz kafedry patologicheskoy fiziologii (zav.-chlen-korrespondent AMN SSSR prof. A.D. Ado)II Moskovskogo meditsinskogo instituta imeni I.V. Stalina. Predstavlena deystvitel'nym chlenom AMN SSSR V.N. Chernigovskin.

(HEART, effect of drugs on,
    botulin A on frog isolated heart (Rus))
(CLOSTRIDIUM BOTULINUM,
    toxin A, eff. on heart isolated from frog (Rus))

MIKHAYLOV, V.V.

Mechanism of development of paralysis in cats with botulin A intoxication. Biul.eksp.biol. i med. 41 no.4:31-33 Ap '56.
(MIRA 9:8)

1. Iz kafedry patologicheskoy fiziologii (zav. chlen-korrespondent AMN SSSR prof. A.D.Ado) II Moskovskogo meditsinskogo instituta imeni I.V.Stalina. Predstavlena deystvitel'nym chlenom AMN SSSR V.N.Chernigovskim.

(CLOSTRIDIUM BOTULINUM,
toxin, causing paralysis in cats (Rus))
(PARALYSIS, experimental,
caused by Clostridium botulinum toxin (Rus))

MIKHAYLOV, V.V. (Moskva)

Electrometronome converted into a stimulator. Pat.fiziol. i eksp. terap. 1 no.4:62 Jl-Ag '57. (MIRA 10:11)

1. Iz kafedry patologicheskoy fiziologii (zav. - prof. A.D.Ado) II Moskovskogo meditsinskogo instituta imeni N.I.Pirogova.
(PHYSIOLOGY, apparatus and instruments,
electric stimulator (Rus))

MIKHAYLOV, V.V.; SVERDLOV, Yu.S. (Moskva)

Method for conducting laboratory studies in pathological physiology on experimentally induced excitation transmission disorders in the intranural cardiac apparatus. Pat.fiziool i eksp.terap. 1 no.6: 53-55 N-D '57. (MIRA 11:3)

1. Iz kafedry patologicheskoy fiziologii (zav. - chlen-korrespondent AMN SSSR prof. A.D.Ado) II Moskovskogo meditsinskogo instituta imeni N.I.Pirogova.
(HEARTBLOCK, experimental,
intramural conduction disord. (Rus))